

## CLAIMS

1. A process for preparing glucose dehydrogenase comprising introducing DNA containing the sequence described  
5 in SEQ ID NO.: 1 coding for an  $\alpha$  subunit, which has a glucose dehydrogenase activity, and a  $\beta$  subunit, which is an electron-transfer protein, into a microorganism belonging to the genus *Pseudomonas* to obtain a transformant, and culturing this transformant to produce a first glucose  
10 dehydrogenase containing said  $\beta$  subunit and a second glucose dehydrogenase not containing said  $\beta$  subunit.

2. The process for preparing glucose dehydrogenase as recited in Claim 1, wherein said  $\alpha$  subunit has a molecular  
15 weight of approximately 60kDa as determined by SDS-polyacrylamide gel electrophoresis under reducing conditions; and

said  $\beta$  subunit has a molecular weight of approximately 43kDa as determined by SDS-polyacrylamide gel electrophoresis  
20 under reducing conditions.

3. The process for preparing glucose dehydrogenase as recited in Claim 1, wherein said DNA contains a base sequence coding for a  $\gamma$  subunit which has a molecular weight of  
25 approximately 14kDa as determined by SDS-polyacrylamide gel electrophoresis under reducing conditions; and

said first and second glucose dehydrogenase are

produced as containing said  $\gamma$  subunit.

4. The process for preparing glucose dehydrogenase as recited in Claim 1, wherein said microorganism belonging to  
5 *Pseudomonas* is *Pseudomonas putida*.

5. The process for preparing glucose dehydrogenase as recited in Claim 1, wherein said DNA is obtained from a microorganism belonging to the genus *Burkholderia* and capable  
10 of producing an enzyme having glucose dehydrogenase activity.

6. The process for preparing glucose dehydrogenase as recited in Claim 5, wherein said microorganism belonging to the genus *Burkholderia* is the *Burkholderia cepacia* KS1 strain  
15 (FERM BP-7306).

7. The process for preparing glucose dehydrogenase as recited in Claim 1, wherein said  $\alpha$  subunit has an amino acid sequence which is the amino acid sequence of SEQ ID NO.: 3,  
20 or an amino acid sequence wherein one or a plurality of amino acid residues have been substituted, deleted, intercalated or added in the amino acid sequence of SEQ ID NO.: 3.

8. The process for preparing glucose dehydrogenase as  
25 recited in Claim 7, wherein said DNA contains a base sequence coding for the  $\alpha$  subunit consisting of bases No. 764 to 2380 among the base sequence of SEQ ID NO.: 1.

9. The process for preparing glucose dehydrogenase as recited in Claim 1, wherein said  $\beta$  subunit has an amino acid sequence which is the amino acid sequence of SEQ ID NO.: 5, or an amino acid sequence wherein one or a plurality of amino acid residues have been substituted, deleted, intercalated or added in the amino acid sequence of SEQ ID NO.: 5.

10. The process for preparing glucose dehydrogenase as recited in Claim 9, wherein said DNA contains a base sequence coding for the  $\beta$  subunit consisting of bases No. 2386 to 3660 among SEQ ID NO.: 1.

11. The process for preparing glucose dehydrogenase as recited in Claim 3, wherein said  $\gamma$  subunit is the amino acid sequence of SEQ ID NO.: 2, or an amino acid sequence wherein one or a plurality of amino acid residues have been substituted, deleted, intercalated or added in the amino acid sequence of SEQ ID NO.: 2.

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12. The process for preparing glucose dehydrogenase as recited in Claim 11, wherein said DNA contains a base sequence coding for the  $\gamma$  subunit consisting of bases No. 258 to 761 among the base sequence of SEQ ID NO.: 1.

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13. The process for preparing glucose dehydrogenase as recited in Claim 12, wherein said DNA contains the base sequence

coding for the  $\gamma$  subunit in a region that is more upstream than the base sequence coding for the  $\alpha$  subunit.

14. The process for preparing glucose dehydrogenase as  
5 recited in Claim 1, wherein said DNA contains a base sequence coding for a signal peptide of said  $\beta$  subunit.

15. The process for preparing glucose dehydrogenase as  
recited in Claim 15, wherein said signal peptide has the amino  
10 acid sequence of amino acids No. 1 to 22 among the amino acid sequence of SEQ ID NO.: 4.

16. The process for preparing glucose dehydrogenase as  
recited in Claim 15, wherein said signal peptide is coded  
15 by the base sequence of bases No. 2386 to 2451 among the base sequence of SEQ ID NO.: 1.